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YOUTH TRANSITION INTO THE WORKPLACE
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1999 TO PRESENT

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YOUTH SUBSTANCE USE/ABUSE PREVENTION

Bauman, K.E., S.T. Ennett, V.A. Foshee, M. Pemberton, and K. Hicks. 2001. "Correlates of Participation in a Family-Directed Tobacco and Alcohol Prevention Program for Adolescents." *Health Education & Behavior* **28(4):440-461.**

The authors examined correlates of program initiation and completion in a family-directed program that involved families of adolescents throughout the United States. Correlates varied by whether program initiation, program completion, or the number of activities completed was the indicator of participation. In final regression models, participation was relatively likely by non-Hispanic Whites when compared with persons of race/ethnicity other than White, Black, and Hispanic; by families with a female adolescent as the program recipient; by families with mothers who had many years of education; and by families with both parents living in the household. There was more participation if parents thought their child would smoke in the future and if the parent thought their child did not smoke currently. Participation was higher if the adolescent felt strongly attached to the parent and if parents did not smoke. The authors consider the findings in the context of similar programs and future research on family-directed programs to prevent adolescent tobacco and alcohol use.

Bauman, K.E., V.A. Foshee, and S.T. Ennett. 2001. "Family Matters: A Family-Directed Program Designed to Prevent Adolescent Tobacco and Alcohol Use." *Health Promotion Practice* **2(1):81-96.**

The authors described a program for families that is intended to reduce adolescent tobacco and alcohol use. The program, featuring mailed booklets and follow-up telephone contacts by health educators, was directed toward general populations and was evaluated with a randomized experiment involving families throughout the contiguous United States. Considerations included description of the principles that influenced program features, the conceptual model for the program, the formative research conducted to design the program, the attributes of the final program as implemented nationally for 658 families, parent assessments of the program, program costs, and the evaluation design.

Bauman, K.E., V.A. Foshee, S.T. Ennett, M. Pemberton, K.A. Hicks, T.S. King, and G.G. Koch. 2001. "The Influence of a Family Program on Adolescent Tobacco and Alcohol Use." *American Journal of Public Health* **91(4):604-610.**

The authors examined a family-directed program's effectiveness in preventing adolescent tobacco and alcohol use in a general population. To do so, they identified adolescents aged 12 to 14 years and their families using random-digit-dialing throughout the contiguous United States. After providing baseline data by telephone interviews, they were randomly allocated to receive or not receive a family-directed program featuring mailed booklets and telephone contacts by health educators. Follow-up telephone interviews were conducted 3 and 12 months after program completion. Findings suggested that smoking onset was reduced by 16.4 percent at 1 year, with a 25.0 percent reduction for non-Hispanic Whites but no statistically significant program effect for other races/ethnicities. There were no statistically significant program effects for smokeless tobacco or alcohol use onset. The authors concluded that the

family-directed program was associated with reduced smoking onset for non-Hispanic Whites, suggesting that it is worthy of further application, development, and evaluation.

Bauman, K.E., S.T. Ennett, V.A. Foshee, M. Pemberton, T.S. King, and G.G. Koch. 2000. "Influence of a Family-Directed Program on Adolescent Cigarette and Alcohol Cessation." *Prevention Science* **1(4):227-237.**

Programs to reduce adolescent cigarette or alcohol use by users in general populations have only recently been evaluated. Moreover, the authors state that in spite of the substantial influence families have on their children, few family-directed programs designed to reduce the prevalence of adolescent smoking and drinking have been rigorously evaluated. The authors reported the findings of research designed to determine whether a family program reduced cigarette or alcohol use by users. The program consisted of a series of booklets mailed to families and follow-up telephone calls by health educators. A randomized experimental design involved families with children aged 12 to 14 years throughout the United States. Data were collected by telephone at baseline and 3 and 12 months after the program was completed. No statistically significant program effects were observed for cessation or decrease in smoking and drinking by users.

Ennett, S.T., K.E. Bauman, M. Pemberton, V.A. Foshee, Y.C. Chuang, T.S. King, and G.G. Koch. 2001. "Mediation in a Family-Directed Program for Prevention of Adolescent Tobacco and Alcohol Use." *Preventive Medicine* **33(4):333-346.**

Family Matters is a universal intervention designed to prevent adolescent tobacco and alcohol use through involvement of family members and by targeting family risk factors for tobacco and alcohol use. Previously reported findings suggest that the program reduced the prevalence of both adolescent smoking and drinking in the 12 months after program completion. The authors report analyses conducted to identify the mediators through which the program influenced adolescent smoking and drinking. To do so, 1,014 adolescents aged 12 to 14 years and their families, identified by random-digit-dialing, were entered into a randomized trial. Adolescents and their parents provided data by telephone for measuring mediator and behavioral variables at baseline, 3 months, and 12 months after program completion. Repeated-measures logistic regression with generalized estimating equations was used to assess mediation processes. The authors found that the program resulted in statistically significant changes in several substance-specific aspects of the family, such as rule setting about tobacco and alcohol use. However, the intermediate family effects did not account for the program effects on adolescent behavior. As a result, the authors concluded that the variables hypothesized to explain program effects were not identified by direct empirical examination.

Ennett, S.T., C.L. Ringwalt, J. Thorne, L.A. Rohrbach, A. Vincus, A. Simons-Rudolph, and S. Jones. 2003. "A Comparison of Current Practice in School-Based Substance Use Prevention Programs with Meta-Analysis Findings." *Prevention Science* **4(1):1-14.**

The series of seminal meta-analytic studies of school-based substance use prevention program studies conducted by the late Nancy S. Tobler and colleagues concluded that programs with content focused on social influences' knowledge, drug refusal skills, and generic competency skills and that use participatory of interactive teaching strategies were more effective than

programs focused on knowledge and attitudes and favoring traditional didactic instruction. The present study compared current school practice against evidence-based standards for "effective content" and "effective delivery," derived from the Tobler findings. Respondents were the lead staff who taught substance use prevention in the 1998-1999 school year in a national sample of public and private schools that included middle school grades (N = 1,795). Results indicate that most providers (62.25 percent) taught effective content, but few used effective delivery (17.44 percent), and fewer still used both effective content and delivery (14.23 percent). Those who taught an evidence-based program (e.g., Life Skills Training, Project ALERT), however, were more likely to implement both effective content and delivery, as were those teachers who were recently trained in substance use prevention and were comfortable using interactive teaching methods. Findings indicate that the transfer to practice of research knowledge about school-based substance use prevention programming has been limited.

Hansen, D.M., and P.A. Jarvis. 2000. "Adolescent Employment and Psychosocial Outcomes: A Comparison of Two Employment Contexts." *Youth & Society* 31(4):417-436.

The authors tested the theory that adolescents working in a family-owned business versus working in a private enterprise would report differences in variables commonly associated with part-time employment. Results indicated that working in a family business was associated with males' and females' reporting greater perceived parental support and males' reporting less drug and alcohol use. Findings were consistent with other research on the associations of hours worked with outcome variables.

Komro, K.A., and T.L. Toomey. 2002. "Strategies to Prevent Underage Drinking." Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism.

Alcohol use by underage drinkers is a persistent public health problem; alcohol is the most commonly used substance among adolescents. Accordingly, numerous approaches have been developed and studied that aim to prevent underage drinking. This article provides data on underage drinking, discusses the causes of the behavior, and surveys various approaches to address the problem. Some approaches are school based, involving curricula targeted at preventing alcohol, tobacco, or marijuana use. Other approaches are extracurricular, offering activities outside of school in the form of social or life skills training or alternative activities. Other strategies strive to involve the adolescents' families in the prevention programs. Policy strategies also have been implemented that have increased the minimum legal drinking age, reduced the commercial and social access of adolescents to alcohol, and reduced the economic availability of alcohol. Approaches involving the entire community also have been employed. Several programs (e.g., the Midwestern Prevention Project and Project Northland) have combined many of these strategies. Adolescent alcohol use is a difficult behavior to change because alcohol consumption is so ingrained in U.S. culture and in everyday life. Given the pervasiveness of positive messages about drinking in U.S. culture, comprehensive, multifaceted approaches to underage drinking may stand the best chances of success.

MacKinnon, D.P., M.P. Taborga, and A.A. Morgan-Lopez. 2002. "Mediation Design for Tobacco Prevention Research." *Drug and Alcohol Dependence* 68:S69-S83.

This paper describes research designs and statistical analysis to investigate how tobacco prevention programs achieve their effects on tobacco use. A theoretical approach to program development and evaluation useful for any prevention program guides the analysis. The theoretical approach focuses on action theory for how the program affects mediating variables and on conceptual theory for how variables are related to tobacco use. Social influences, such as beliefs about peers, are a primary mediating factor in substance use, including tobacco. Information on the mediating mechanisms by which tobacco prevention programs achieve effects is useful for the development of efficient programs and provides a test of the theoretical basis of prevention efforts. Examples of these potential mediating mechanisms are described, including mediated effects through attitudes, asocial norms, beliefs about positive consequences, and accessibility to tobacco. Prior research provides evidence that changes in social norms are a critical mediating mechanisms for successful tobacco prevention. Analysis of mediating variables in single group designs with multiple mediators are described as well as multiple group randomized designs which are the most likely to accurately uncover important mediating mechanisms. More complicated dismantling and constructive designs are described and illustrated based on current findings from tobacco research. Mediations analysis for categorical outcomes and more complicated statistical methods are outlined.

Morehouse, E., and N.S. Tobler. 2000. "Preventing and Reducing Substance Use among Institutionalized Adolescents." *Adolescence* 35(137):1-28.

The Residential Student Assistance Program, serving high-risk, multiproblem, inner-city, primarily African-American and Latino youth, was evaluated for its ability to prevent and decrease alcohol and other drug use. Participants were drawn from several adolescent residential facilities: three foster care sites for abused, neglected, orphaned, or troubled adolescents, a nonsecure facility for adjudicated juvenile offenders, a treatment center for teens with severe psychiatric problems, and a locked county correctional facility. In addition, comparison groups were employed. A 5th-year outcome evaluation documented the program's effectiveness in both preventing and reducing substance use among participants, with impact related to program dosage. Qualitative process data clarified and strengthened confidence in the quantitative outcomes.

Peterson, A.V. Jr., K.A. Kealey, S.L. Mann, P.M. Marek, and I.G. Sarason. 2000. "Hutchinson Smoking Prevention Project: Long-Term Randomized Trial in School-Based Tobacco Use Prevention—Results on Smoking." Journal of the National Cancer Institute 92(24):1979-1991.

No long-term impact has yet been observed with the use of the social-influences approach to school-based smoking prevention for youth. However, whether this lack of impact is due to methodologic problems with the studies or to the failure of the interventions is unclear. The Hutchinson Smoking Prevention Project (HSPP), conducted from September 1984 through August 1999, aimed to determine the long-term impact of a theory-based, social-influences, grade 3-12 intervention on smoking prevalence among youth. Forty Washington school districts were randomly assigned to the intervention or to the control condition. Study

participants were children enrolled in two consecutive 3rd grades in the 40 districts (n=8,388); they were followed to 2 years after high school. The trial achieved high implementation fidelity and 94 percent follow-up. Data were analyzed with the use of group-permutation methods, and all statistical tests were two sided. No significant difference in prevalence of daily smoking was found between students in the control and experimental districts, either at grade 12 or at 2 years after high school. Moreover, no intervention impact was observed for other smoking outcomes, such as extent of current smoking or cumulative amount smoked, or in subgroups that differ in *a priori* specified variables, such as family risk for smoking. The rigor of the HSPP trial suggests high credence for the intervention impact results. Consistent with previous trials, there is no evidence from this trial that a school-based social-influences approach is effective in the long-term deterrence of smoking among youth.

Slesnick, N., R.J. Meyers, M. Beade, and D.H. Segelken. 2000. "Bleak and Hopeless No More: Engagement of Substance-Abusing Runaway Youth and Their Families." ***Journal of Substance Abuse and Treatment* 19:215-222.**

Treatment of adolescents with substance use problems is made more difficult by their lack of motivation to change, difficulty engaging in treatment, and early dropout. Runaway/homeless shelters document high levels of substance abuse among runaway youth, at least double that of school youth. These youth present a constellation of problems; research suggests that this population may be unique in the range and intensity of associated problems. Most studies to date have collected self-report data on these youth; virtually no research has examined treatment effectiveness with the population. Given the void of treatment outcome research with these youths, there is need for identifying potent interventions. Given that issues of engagement and retention must assume prominence in the development of new treatments, this article presents a family-based treatment engagement strategy successfully employed with a sample of substance-abusing youth staying in a southwestern shelter. Youth and primary caretakers are engaged separately by the therapist utilizing motivating factors appropriate to context of the families' lives and to the developmental position of the client.

Tobler, N.S., M.R. Roona, P. Ochshorn, D.G. Marshall, A.V. Streke, and K.M. Stackpole. 2000. "School-Based Adolescent Drug Prevention Programs: 1998 Meta-Analysis." ***Journal of Primary Prevention* 20(4):275-336.**

The authors reported on a meta-analysis of 207 universal school-based drug prevention programs that compared the self-reported drug use of treatment to control or comparison youth. Programs were classified into Interactive and Non-Interactive groups based on a combination of content and delivery method. Weighted categorical and weighted regression methods were used to determine the attributes that most effectively reduce, delay, or prevent drug use, including program size, type of control group and leader, attrition, target drug, intensity, grade, special population, and level of drug use. Program type and size were found to be significant predictors of effectiveness. Non-Interactive lecture-oriented prevention programs that stressed drug knowledge or affective development showed small effects. Interactive programs that fostered development of interpersonal skills showed significantly greater effects that decreased with large-scale implementations.

Williams, C.L., C.L. Perry, K. Farbakhsh, and S. Veblen-Mortenson. 1999. "Project Northland: Comprehensive Alcohol Use Prevention for Young Adolescents, Their Parents, Schools, Peers, and Communities." *Journal of Studies on Alcohol* **(Suppl 13):112-124.**

Project Northland is a prevention trial with the objective of reducing underage drinking and related problems. Phase 1 focused on early adolescence, and this article describes the multiple interventions, highlighting its parent components. To conduct their study, the authors used a cohort design with sixth graders from 24 school districts, randomly assigned to intervention or reference condition. Phase 1 ended in eighth grade. Both demand and supply reduction guided the interventions. The authors examined Project Northland's impact using MMPI-A scales assessing clinical problems related to adolescents' alcohol and other drug (AOD) use, as well as MMPI-A scales related to school functioning and family functioning. Results showed significant reductions on the MMPI-A Proneness scale for those exposed to the interventions. The greatest program effects were among baseline nonusers of alcohol. The results suggest that the impact of Project Northland is not only on specifically targeted alcohol and drug use behaviors and their predictive factors but also on intra-individual and familial factors generally considered precursors of more extensive problem behaviors and more resistant to change. Furthermore, the engaging home-based sixth-grade intervention, the Slick Tracy Home Team Program, is a promising population-based prevention approach that may generalize to other serious problems within a young person's family.

PREVALENCE, RISK FACTORS, AND CORRELATES OF YOUTH SUBSTANCE USE/ABUSE

Bauman, A., and P. Phongsavan. 1999. "Epidemiology of Substance Use in Adolescence: Prevalence, Trends and Policy Implications." *Drug and Alcohol Dependence* **55(3):187-207.**

The authors reviewed the epidemiology of substance use among adolescents. There is a public health imperative in all countries to assess the prevalence rates of tobacco, alcohol, and illicit drug use among adolescents. In addition, monitoring trends over time may reflect the net effects of activities and programs carried out to prevent adolescent substance use. School-based surveys provide prevalence estimates of substance use but do not capture street and homeless youth and other high-risk adolescents not found in the school environment. Overall, the results of this review suggest that tobacco, hazardous alcohol use, and most categories of illicit drug use have shown consistent increases in prevalence since about 1990 in most developed countries, for school-based adolescents, suggesting that the substance use problem among adolescents remains unsolved. These trends are remarkably similar across substance use behaviors, and among most developed countries, although limited data have emanated from adolescents in the developing world. Interventions to reduce or prevent substance use have shown mixed results, with those focusing on the adolescents' social environment showing the most promise. The authors conclude that broader public health approaches, including the linkage to community-wide prevention, and greater enforcement or regulatory and legislative approaches to tobacco and alcohol access are future directions for research and practice.

Bray, J.W., G.A. Zarkin, C. Ringwalt, and J. Qi. 2000. "The Relationship between Marijuana Initiation and Dropping Out of High School." *Health Economics* **9(1):9-18.**

The prevalence of marijuana use among young people has risen rapidly in recent years, causing concern over the potential impact of such use on academic performance. Although recent studies have examined the effect of alcohol use on educational attainment, they have, according to the authors, largely ignored the potential negative effects of other substances, such as marijuana. As a result, the authors examined whether the relationship between the initiation of marijuana use and the decision to drop out of high school varies with the age of dropout or with multiple substance use. Data were from a longitudinal survey of 1,392 adolescents aged 16 to 18 years. Results suggest that marijuana initiation is positively related to dropping out of high school. Although the magnitude and significance of this relationship varies with age of dropout and with other substances used, it is concluded that the effect of marijuana initiation on the probability of subsequent high school dropout is relatively stable, with marijuana users' odds of dropping out being about 2.3 times that of non-users. The authors consider the implications of these conclusions for both policy makers and researchers.

Chen, K., and D. Kandel. 2002. "Relationship between Extent of Cocaine Use and Dependence among Adolescents and Adults in the United States." *Drug and Alcohol Dependence* **68(1):65-85.**

The relationships between intensity of cocaine use, route of administration, and past-year dependence were investigated in a nationally representative sample of past year cocaine users aged 12 and over (N = 2349) from three aggregated surveys (1991–1993) of the National Household Survey on Drug Abuse. An approximate measure of DSM-IV dependence criteria was developed from self-reported symptoms of dependence and drug-related problems. The model and the data provided no basis for rejecting the hypothesis that the logit of the probability of dependence increased linearly with the logarithm of the frequency of cocaine use in the past year and with quantity of cocaine use in the past 30 days. The associations between frequency and quantity of cocaine use and cocaine dependence varied significantly by an age-by-gender interaction and race/ethnicity. African-American users, who had higher rates of cocaine dependence than Whites, used cocaine more frequently, used it by more addictive routes (smoking or injection), and were more likely to use crack. Adolescent females, who reported higher rates of cocaine dependence than males, used cocaine more frequently and reported more symptoms at low doses of cocaine use. Multivariate logistic regressions indicated that frequency and quantity of use, as well as route of administration, retained unique associations with cocaine dependence. Implications of the findings for the epidemiological study of cocaine use and dependence are discussed.

Colder, C.R., and L. Chassin. 1999. "The Psychosocial Characteristics of Alcohol Users versus Problem Users: Data from a Study of Adolescents at Risk." *Development and Psychopathology* **11(2):321-348.**

Most previous research has assumed that adolescent alcohol use and problem use represent a continuum and are influenced by the same psychosocial factors, with problem use representing more severe psychosocial impairment. The current study evaluated this assumption by

identifying the correlates of adolescent alcohol use and those of problem use. Using a community sample of adolescent children of alcoholics (COAs) and a demographically matched comparison group (non-COAs), a typology of adolescent alcohol use was created, and alcohol use groups were compared on variables chosen from nine psychosocial domains. The correlates of problem alcohol use were psychological functioning. In contrast, the determinants of moderate alcohol use reflected unconventionality and socialization specific to alcohol. Few psychosocial variables distinguished abstainers from light drinkers. Intervention and methodological implications of these findings are discussed.

Copans, S.A., J. Kinney, and T.W. Estroff. 2001. "Adolescent Development and Substance Abuse." In *Manual of Substance Abuse Treatment,* T.W. Estroff, ed., pp. 265-272. Washington, DC: American Psychiatric Publishing.

Dee, T.S., and W.N. Evans. 2003. "Teen Drinking and Educational Attainment: Evidence from Two-Sample Instrumental Variables Estimates." *Journal of Labor Economics* 21(1):178-209.

This study examines the effects of teen alcohol use and availability on educational attainment. The authors demonstrate that teens who faced a lower minimum legal drinking age (MLDA) were substantially more likely to drink. However, they find that changes in MLDA had small and statistically insignificant effects on educational attainment. Using matched cohorts from two data sets, the authors also report two-sample instrumental variable estimates of the effect of teen drinking on educational attainment. These estimates are smaller than the corresponding ordinary least squares estimates and statistically insignificant, indicating that teen drinking does not have an independent effect on educational attainment.

Farkas, A.J., E.A. Gilpin, M.M. White, and J.P. Pierce. 2000. "Association between Household and Workplace Smoking Restrictions and Adolescent Smoking." *Journal of the American Medical Association* 284(6):717-722.

Recent marked increases in adolescent smoking indicate a need for new prevention approaches. Whether workplace and home smoking restrictions play a role in such prevention is unknown. This study aimed to assess the association between workplace and home smoking restrictions and adolescent smoking. Data were analyzed from two large national population-based surveys, the Current Population Surveys of 1992-1993 and 1995-1996, which included 17,185 adolescents aged 15 to 17 years. Adolescents' smoking status was compared by presence of home and workplace smoking restrictions. After adjusting for demographics and other smokers in the household, adolescents who lived in smoke-free households were 74 percent (95 percent confidence interval [CI], 62 percent-88 percent) as likely to be smokers as adolescents who lived in households with no smoking restrictions. Similarly, adolescents who worked in smoke-free workplaces were 68 percent (95 percent CI, 51 percent-90 percent) as likely to be smokers as adolescents who worked in a workplace with no smoking restrictions. Adolescent smokers were 1.80 (95 percent CI, 1.23-2.65) times more likely to be former smokers if they lived in smoke-free homes. The most marked relationship of home smoking restrictions to current adolescent smoking occurred in households where all other members were never-smokers. Current smoking prevalence among adolescents in homes without smoking restrictions approached that among adolescents in homes with a current smoker but

with smoking restrictions. Parents with minor children should be encouraged to adopt smoke-free homes. Smoke-free workplaces can also augment smoking prevention. These findings emphasize the importance of tobacco control strategies aimed at the entire population rather than just at youth.

Harrison, P.A. 2001. "Predisposing Factors." In *Manual of Substance Abuse Treatment.* T.W. Estroff, ed., pp.13-33. Washington, DC: American Psychiatric Publishing.

Hopfer, C.J., M.C. Stallings, J.K. Hewitt, and T.J. Crowley. 2003. "Family Transmission of Marijuana Use, Abuse, and Dependence." *Journal of the American Academy of Child & Adolescent Psychiatry* 42(7):834-841.

This study examines the familial aggregation of marijuana use, abuse, and dependence. Adolescents recruited from residential and day treatment programs for youth with conduct and substance problems, matched controls, and all available family members were interviewed with structured research instruments. A total of 2,546 individuals from 781 families were interviewed. Risk ratios of relatives of clinical cases were calculated, compared with controls, for marijuana use, abuse, or dependence. Spousal, parent-offspring, and sibling correlations and the proportion of variance attributable to parent-offspring transmission were estimated using structural equation modeling. For all three measures, the risk ratios were elevated in the family members of clinical probands, with estimates ranging from 1.5 to 3.3. Spousal correlations ranged from 0.33 to 0.70. Parent-offspring correlations ranged from 0.17 to 0.30. Sibling correlations ranged from 0.34 to 0.44. The proportion of variance attributable to factors transmitted from parents to children ranged between 25 percent and 44 percent. Familial aggregation of marijuana use, abuse, and dependence is present for all three measures. Results suggest significant parent-offspring transmission of risk, sibling environmental influences, and assortative mating for all three levels of marijuana use.

Johnston, L.D., P.M. O'Malley, and J.G. Bachman. 2003. *Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 2002.* NIH Publication No. 03-5374. Bethesda, MD: National Institute on Drug Abuse.

Since 1975, Monitoring the Future has been studying substance abuse in American adolescents, college students, and adults through age 40. This publication reports early results from the 2002 nationwide survey of eighth, tenth, and twelfth grade students. In addition to extensive data on substance use, this publication also reports students' attitudes about substance use, including which substances have a "great risk" associated with use, to what extent individual substances are disapproved of, and the ease with which individual substances can be obtained. Over half of American young people have tried an illicit substance by the time they finish high school; 30 percent of students have tried an illicit substance other than marijuana. If inhalants are included, nearly one-third of students have sampled an illicit substance as early as eighth grade. These figures parallel those for cigarette use: 57 percent of high school seniors have tried cigarettes, and nearly one-third of eighth graders have tried cigarettes. Over three-quarters of students have consumed alcohol by the end of high school; nearly half have done so by eighth grade. Sixty-two percent of twelfth graders have been drunk at least once.

Kandel, D.B., and K. Chen. 2000. "Types of Marijuana Users by Longitudinal Course." *Journal of Studies on Alcohol* **61(3):367-378.**

Taxonomies of alcoholism and antisocial behaviors based on developmental course converge on two-group classifications that emphasize early and late onset. Typologies for users of illicit drugs remain to be developed. This article proposes a developmental taxonomy of marijuana users. Cluster analysis was applied to a representative community sample of 708 (364 male, 344 female) marijuana users followed from adolescence to age 34-35. The Ward method, followed by relocation, was used to classify marijuana users into different types based on age of onset, chronicity of heavy use, and persistence of use. ANOVA and logit analyses were used to describe the cluster solution and examine the correlates of cluster membership. Four marijuana use clusters were identified: early onset-heavy use, early onset-light use, mid onset-heavy use and late onset-light use. The groups differed from each other in degree of involvement in marijuana and other drugs and sociodemographic and lifestyle characteristics. The majority of those with early onset did not become heavily involved in marijuana. Unique factors were associated with membership in each group. Factors differentiating early from mid-onset heavy use included association with marijuana-using peers and having had a mental disorder. Peer delinquency was an additional factor differentiating early initiators who became heavy users from those who did not. A simple two-type classification fails to take into account the heterogeneity of early and late onset groups. By itself, early onset into marijuana will not lead to problematic use or rapid progression into the use of other drugs. Motivation underlying use and dysfunctional behaviors are associated with the development of problematic drug use and dependence.

Kumar, R., P.M. O'Malley, L.D. Johnston, J.E. Schulenberg, and J.G. Bachman. 2002. "Effects of School-Level Norms on Student Substance Use." *Prevention Science* **3(2):105-124.**

The authors examined the relationship between school norms of substance use disapproval (disapproval by the student body) and students' use of cigarettes, alcohol, and marijuana. Data came from nationally representative samples of eighth, tenth, and twelfth grade students, attending 150, 140, and 142 schools, respectively. These students participated in the Monitoring the Future Project in 1999. Measures of school norms of disapproval of substance use were obtained by aggregating students' personal disapproval of daily cigarette use, heavy drinking, and marijuana use within each school. Analysis using logistic nonlinear hierarchical models indicated that, in general, school-level disapproval lowered the probability of students' use of these substances, controlling for their own disapproval and for student and school demographic characteristics. The beneficial effect of school-level disapproval of cigarette and marijuana use on eighth-grade students' probability of daily cigarette use and marijuana use was significantly higher than it was for twelfth-grade students. The effect of school-level disapproval of heavy drinking on the probability of students' drinking was not significantly different across the three grades. A school environment of disapproval was also found to create a protective environment for those students in the eighth and tenth grades who were themselves not disapproving of daily cigarette use. These results argue for prevention programs that include creation of an overarching environment of disapproval of substance use in schools.

Monti, P.M., S.M. Colby, and T.A. O'Leary. 2001. "Introduction." In *Adolescents, Alcohol, and Substance Abuse; Reaching Teens through Brief Interventions*, P.M. Monti, S.M. Colby, and T.A. O'Leary, eds., pp. 1-18. New York: Guilford Press.

This book introduction reviews adolescent substance use data, considers racial and cultural dimensions of use, and discusses stages of change, harm reduction, pharmacotherapy, and the elements of brief motivational treatment which the book as a whole advocates. Citing figures from Monitoring the Future, the National Comorbidity Study, and numerous articles, the authors observe that two decades into the war on drugs, adolescent substance use remains a problem. Early and dangerous alcohol use has a baneful effect on adolescent development and transition to adulthood. Adolescent substance misuse is associated with earlier sexual activity, increased risk of dropping out of school, premature separation from parents; these difficulties are associated with later problems, such as marital difficulties and lower occupational status. The authors discuss Prochaska and DiClemente's stages of change, detailing how substance users who change their behaviors progress through precontemplation, preparation, action, and maintenance stages, though often with relapses to previous stages. Harm reduction is examined for its utility in treating adolescent alcohol use in particular. Harm reduction is a treatment philosophy that accepts alternatives to total abstinence when abstinence is not a realistic or useful goal. Because adolescent alcohol abuse is often intermittent and not necessarily progressive or fatal, a "come as you are" approach to treatment may better serve adolescents who need help, but reject the idea of abstinence. The authors note the lack of useful data on substance use and race and culture; few researchers have taken the effort to recruit appropriate subjects or design culturally sensitive treatment programs. The authors advise that clinicians err on the side of caution when considering pharmacotherapy in adolescents; they do not recommend pharmacotherapy be used in brief interventions. Finally, the six elements of brief interventions are outlined. They are represented by the acronym, *FRAMES:* Feedback is relayed quickly to the client; Responsibility for change is emphasized; Advice to change is given; a Menu of change options is provided; Empathy is expressed by clinician; Self-efficacy is emphasized. Brief interventions consist of one to five sessions and are not merely compressed versions of traditional treatment.

Schulenberg, J., J.L. Maggs, K.J. Steinman, and R.A. Zucker. 2001. "Development Matters: Taking the Long View on Substance Abuse Etiology and Intervention during Adolescence." In *Adolescents, Alcohol, and Substance Abuse; Reaching Teens through Brief Interventions,* P.M. Monti, S.M. Colby, and T.A. O'Leary, eds., pp. 19-57. New York: Guilford Press.

The authors argue in this chapter that alcohol and other drug use among young people is embedded in the developmental transitions that take place during adolescence and the transition to adulthood. Substance use, thus, must be examined in the context of these transitions and over time. Increased health risks during adolescence are best understood in the context of significant transitions: pubertal and cognitive development, affiliative transitions, achievement transitions, and identity transitions. The authors propose five different conceptual models for understanding the relation between developmental transitions and health risks: 1) health risks can be a possible but not ineluctable result of multiple developmental transitions; 2) health risks can be the result of the goodness of fit between an adolescents and their contexts; 3) developmental transitions can moderate ongoing health risks; 4) risk-taking and substance in

particular can be viewed as a way to negotiate developmental transitions; 5) developmental transitions increase the effects of chance events. The many transitions adolescents undergo provide opportunities to intervene and change courses of behavior that are already in flux. Changing risky behaviors while individuals are young also promotes enhanced health and well-being throughout life. Multiple paths lead individuals to first substance use and to escalation to abuse; effective prevention programs will likely be those that address as many of these paths as possible.

Smith, G.T., and K.G. Anderson. 2001. "Personality and Learning Factors Combine to Create Risk for Adolescent Problem Drinking: A Model and Suggestions for Intervention." In *Adolescents, Alcohol, and Substance Abuse; Reaching Teens through Brief Interventions*, P.M. Monti, S.M. Colby, and T.A. O'Leary, eds., pp. 109-141. New York: Guilford Press.

This chapter describes the authors' model of risk for adolescent problem drinking that integrates personality and learning risk factors. Their acquired preparedness model argues that disinhibited adolescents learn the reinforcing aspects of risky behaviors at the expense of the punishing aspects. When these disinhibited adolescents encounter alcohol, there is a bias for the formation of positive expectancies over negative expectancies. Alcohol expectancies predict the onset of alcohol-related problems. So, adolescents' expectations for alcohol mediate the influence of disinhibition on their drinking. The authors advocate motivational interviewing and expectancy challenges in interventions with adolescent drinkers. Interventions aimed at improving attention to the punishing aspects of drinking and at helping individuals better remember the negative consequences of drinking are suggested by the authors. However, more research is needed on the role that attention and memory play before these interventions are warranted.

Substance Abuse and Mental Health Services Administration (SAMHSA). 2002. *Results from the 2001 National Household Survey on Drug Abuse: Volume I. Summary of National Findings*. Office of Applied Studies, NHSDA Series H-17, DHHS Publication No. SMA 02-3758. Rockville, MD: SAMHSA.

Substance Abuse and Mental Health Services Administration (SAMSHA). 2003. *Results from the 2002 National Survey on Drug Use and Health: National Findings*. Office of Applied Studies, NHSDA Series H-22, DHHS Publication No. SMA 03-3836. Rockville, MD: SAMHSA.

This report presents information from the National Survey on Drug Use and Health (NSDUH)—formerly the National Household Survey on Drug Abuse (NHSDA)—which annually surveys about 67,500 Americans 12 years and older on use of alcohol, tobacco, and illicit substances. The report breaks out substance use by age, gender, race/ethnicity, education, employment, and geographic region. It also includes chapters on trends in substance use and prevention measures for youth. NSDUH data are compared with findings from Monitoring the Future on use of alcohol, cigarettes, marijuana, cocaine, ecstasy, and LSD. This study finds that in 2002 over 11 percent of youth aged 12 to 17 used illicit substances. This rate was second only to that of young adults aged 18 to 25, over one-fifth of whom used illicit substances. Over 28 percent of peopled aged 12 to 20 drank alcohol in the month preceding the survey; nearly 20

percent of those who drank were binge drinkers; over 6 percent were heavy drinkers. Among youth aged 12 to 17, girls were more likely to smoke than boys (13.6 percent vs. 12.3 percent).

Swadi, H. 1999. "Individual Risk Factors for Adolescent Substance Use." *Drug and Alcohol Dependence* **55(3):209-224.**

Identification of risk factors that influence initiation and escalation of drug use in the adolescent population is the approach that has gained currency in addressing the problem of adolescent substance abuse. The wide array of risk factors involved can be condensed into three main domains: constitutional predisposition, environmental factors (family and peers) and life events. This has been complemented by a surging interest in protective factors. Recent research evidence has been helpful in defining the direction and strategy of prevention efforts. A definite trend has emerged: family influences are being increasingly targeted. The rationale for this shift seems to come from the observation that home environment, family relationships, and parenting styles are almost always involved as risk factors, mediators, or as protective factors.

Taylor, J., S. Malone, W.G. Iacono, and M. McGue. 2002. "Development of Substance Dependence in Two Delinquency Subgroups and Nondelinquents from a Male Twin Sample." *Journal of the American Academy of Child & Adolescent Psychiatry* **41(4):386-393.**

The effect of delinquency subtype on the development of substance dependence symptoms was examined. It was proposed that early-onset delinquents possess characteristics that increase their likelihood of developing substance dependence problems earlier and more rapidly than late-onset delinquents and nondelinquents. The development of alcohol, nicotine, and cannabis dependence symptoms (DSM-III-R) was examined over a 6-year period of adolescence (age 11-17) among 36 early-onset delinquent, 86 late-onset delinquent, and 25 nondelinquent boys from a large epidemiological twin sample. Multilevel/random coefficients models were used to compare groups on the rate of growth in number of symptoms over time. Early-onset delinquents showed an earlier onset and a faster rate of increase in the number of cannabis and nicotine dependence symptoms than late-onset delinquents and controls. Both delinquent groups had a more rapid increase in alcohol dependence symptoms than controls. The data showed that early-onset delinquency is associated with earlier onset of substance use disorder symptoms and more rapid acceleration of problems with drugs than late-onset delinquency. Treatments for boys with early-onset delinquency should account for their increased risk for drug use problems in adolescence and the potential effects of those problems on the course of antisocial behavior.

WORKPLACE SUBSTANCE ABUSE PREVENTION

Bennett, J.B., and C.L. Beaudin. 2000. "Collaboration for Preventing Substance Abuse in the Workplace: Modeling Research Partnerships in Prevention." *Journal for Healthcare Quality* **22(4):24-30.**

The managed care community and employers have expressed interest in substance abuse prevention, but there has been little consensus about which prevention and health promotion activities are most appropriately provided in the workplace. In the past 5 years, academicians

have become increasingly interested in working with health care organizations to develop and implement short- and long-term research partnerships. The most helpful prevention research will serve mutual interests and produce mutual benefit. This article presents a preliminary guide to help facilitate greater collaboration among managed behavioral health care organizations, employee assistance programs, and health services researchers interested in preventing substance abuse in the workplace. This guide identifies broad objectives, topic areas, critical applications, and assumptions that can guide collaborative efforts in prevention research.

Bennett, J.B., and W.E. Lehman. 2001. "Workplace Substance Abuse Prevention and Help Seeking: Comparing Team-Oriented and Informational Training." *Journal of Occupational Health Psychology* **6(3):243-254.**

Employees fail to seek help for alcohol or other drug (AOD) abuse because of unhealthy work climates, stigma, and distrust in Employee Assistance Programs (EAPs). To address such problems, the authors randomly assigned groups of municipal employees (N = 260) to two types of training: a 4-hour informational review of EAPs and policy, and an 8-hour training that embedded messages about AOD reduction in the context of team building and stress management. Pre- and post-training and 6-month follow-up surveys assessed change. Group privacy regulation, EAP trust, help seeking, and peer encouragement increased for team training. Stigma of substance users decreased for information training. EAP/policy knowledge increased for both groups. A control group showed little change. Help seeking and peer encouragement also predicted EAP utilization. Integrating both team and informational training may be the most effective approach for improving help seeking and EAP utilization.

Bennett, J.B., W.E. Lehman, and G.S. Reynolds. 2000. "Team Awareness for Workplace Substance Abuse Prevention: The Empirical and Conceptual Development of a Training Program." *Prevention Science* **1(3):157-172.**

The authors describe the empirical and theoretical development of a workplace training program to help reduce and/or prevent employee alcohol and drug abuse and enhance aspects of the work group environment that supports ongoing prevention. The authors (1) examined the changing social context of the workplace (e.g., teamwork, privacy issues) as relevant for prevention, (2) reviewed studies that assessed risks and protective factors in employee substance abuse (work environment, group processes, and employee attitudes), (3) provided a conceptual model that focuses on work group processes (enabling, neutralization of deviance) as the locus of prevention efforts, (4) described an enhanced team-oriented training that was derived from previous research and the conceptual mode, and (5) described potential applications of the program. The authors suggested that the research and conceptual model may help prevention scientists to assess the organizational context of any workplace prevention strategy. The need for this team-oriented approach may be greater among employees who experience psychosocial risks, such as workplace drinking climates, social alienation, and policies that emphasize deterrence and drug testing over educative prevention. The authors also discussed the limitations of the model.

Bennett, J.B., G.S. Reynolds, and W.E.K. Lehman. 2003. "Understanding Employee Alcohol and Other Drug Use: Toward a Multilevel Approach." In *Preventing Workplace Substance Abuse: Beyond Drug Testing to Wellness*, J.B. Bennett and W.E.K. Lehman, eds., pp. 29-56. Washington, DC: American Psychological Association.

In this book chapter, the authors reviewed national trends in employee alcohol and other drug (AOD) abuse as well as evidence for the negative consequences of employee AOD use. They also reviewed evidence showing the importance of work environment and organizational- and occupational-level factors as potential risks for AOD abuse. Because organizational and occupational factors (e.g., work climate) can influence employee AOD use, the authors asserted that prevention programmers and evaluators should be aware of contextual influences when designing, implementing, and evaluating their interventions. Finally, the authors offered a preliminary quantitative meta-analysis of research on workplace prevention programs.

Bray, J.W., G.A. Zarkin, M.L. Dennis, and M.T. French. 2000. "Symptoms of Dependence, Multiple Substance Use, and Labor Market Outcomes." *American Journal of Drug and Alcohol Abuse* 26(1):77-95.

According to the National Comorbidity Study, approximately 11 percent of people between the ages of 15 and 54 in the United States have past-year substance use disorders, including alcohol dependence (7 percent), alcohol abuse (3 percent), any drug dependence (3 percent), and any drug abuse (1 percent). In relation to labor market outcomes, past research has indicated that alcohol and drug use disorders are potentially very costly. As a result, the prevalence and potential cost of alcohol and drug disorders are serious concerns for policy makers. However, few studies exist on the relationship between substance use disorders and labor market behavior. Therefore, the authors used data from the 1991, 1992, and 1993 National Household Surveys on Drug Abuse to examine the labor market behavior of substance users with symptoms of dependence similar to those given in the DSM-III-R. The purpose of the paper is twofold. First, the authors provided estimates of the relationship between symptoms of substance dependence and labor market behaviors for prime age workers in the United States. Second, they provided information on the impact of comorbidities on these estimates.

Cook, R.F., A.S. Back, J. Trudeau, and T. McPherson. 2003. "Integrating Substance Abuse Prevention into Health Promotion Programs in the Workplace: A Social Cognitive Intervention Targeting the Mainstream User." In *Preventing Workplace Substance Abuse: Beyond Drug Testing to Wellness*. J.B. Bennett and W.E.K. Lehman, eds., pp. 97-133. Washington, DC: American Psychological Association.

Cook, R.F., and W.E. Schlenger. 2002. "Prevention of Substance Abuse in the Workplace: Review of Research on the Delivery of Services." *Journal of Primary Prevention* 23(1):115-142.

With the growing recognition that most illicit drug users and heavy drinkers are members of the workforce, the workplace has become an increasingly significant, although still underutilized, vehicle for the delivery of substance abuse prevention services. On most days, the large majority of substance abusers will be found in the workplace; targeting working adults can help

prevent illicit drug use and problem drinking in a large segment of the aged 18 to 65. The authors discuss some of the chief reasons for engaging in substance abuse prevention in the workplace; outline the foundations of workplace prevention services; and review recent research on workplace substance abuse prevention, including the major preventive interventions aimed at the workplace environment and the individual worker. A major hurdle to effective delivery of substance abuse prevention in the workplace is the stigma associated with admitting such a problem. Imbedding substance abuse prevention content in stress management or health promotion programs can be an effective way to neutralize the stigma. The authors close with a discussion of future programming and research on the delivery of workplace prevention services. They point to several positive indications for future workplace prevention efforts: workplace health promotion programs are on the increase; workplace initiatives (e.g., substance use policies, specially designed interventions) *do* have an impact on employee substance use; programs that help parents address substance use in their families are on the increase; and computer-based substance abuse prevention programs are a powerful, new tool for workplace substance abuse prevention.

Edberg, M., C. Ringwalt, D. Galvin, M. Eisenberg, and D. Driscoll. 2003. "The Impact of the Transition to Work on Youth Substance Abuse." Unpublished working paper.

Many studies have found that adolescent students who are employed report higher levels of substance use than students who do not work. Explanations abound. Students who choose to work may have been predisposed to abuse substances regardless of employment, disengagement from conventional institutions may be both cause and result of early work involvement, lower levels of attachment to family and school are predictive of adolescent employment, and working is predictive of alcohol use. But the causal dynamics that subtend these relationships remain unclear. The authors conducted 11 focus groups of working adolescents (aged 15 to 17) and young adults (aged 18 to 23, all of whom were in college) in Washington, DC, Raleigh-Durham, NC, and Tucson, AZ. Seventy-five participants discussed the types of work they performed, working conditions, why they sought work, patterns of substance use before and after taking a job, and issues pertinent to substance use, such as peer relationships, work context, and social pressures. Among 15- to 17-year-olds, the only work-related factor associated with increased substance use was having more money and independence. Among 18- to 25-year-olds, work did not appear to be connected to any increase in substance use. Some participants reported that substance use would jeopardize things (such as good grades, employment) that they had worked hard to achieve. Premature adoption of adult behaviors is often seen as a risk factor in substance use (as adolescents hasten or skip altogether a gradual transition to adulthood), but this study reports that adopting these behaviors may actually serve as a protective factor.

Frone, M.R. 2003. "Predictors of Overall and On-the-Job Substance Use among Young Workers." *Journal of Occupational Health Psychology* 8(1):39-54.

The author studied the predictors of overall and on-the-job substance (alcohol and marijuana) use in a sample of young workers. The 18 predictors represent six general domains of risk factors: demographic, personality, substance use outcome expectancies, workplace substance availability, workplace social control, and work stressors. Data were obtained from a sample of 319 individuals aged 16 to 19 years. Hierarchical regression analyses revealed that five of the

six domains of risk factors were related to employee substance use. Similarities and differences were found in the predictors of overall and on-the-job substance use and in the predictors of alcohol and marijuana use.

Heirich, M., and C.J. Seick. 2003. "Helping At-Risk Drinkers Reduce Their Drinking: Cardiovascular Outreach at Work." In *Preventing Workplace Substance Abuse: Beyond Drug Testing to Wellness*, J.B. Bennett and W.E.K. Lehman, eds., pp. 135-164. Washington, DC: American Psychological Association.

This chapter examines the Wellness Outreach at Work (WOW) programs—proactive health-promotion programs that focus on behavior change. Because Employee Assistance Programs (EAPs) often intervene too late and because starting healthy behaviors is easier than stopping bad ones, WOW reaches out actively to an entire workforce with education and social reinforcement for change. As a culture of healthy behaviors takes hold in a workplace, individuals' efforts at change are increasingly supported. At over 100 worksites over a 3-year period, over half of the employees with identified health risks actively worked to change their behaviors. This chapter examines whether alcohol abuse prevention can be incorporated successfully into existing WOW programs that focus on reducing cardiovascular health risks. Outreach and follow-up techniques that encourage health behavior change proved to be successful with people who abused alcohol. Individual counseling sessions were far more effective than group health education. High-visibility outreach counseling helped even workers who were not participating in the programs focus on health risks, as a general culture of healthy behavior pervaded one large worksite over the course of the 3-year study. The authors conclude that wellness programs devoted to cardiovascular health risks are a natural route for delivering alcohol education and prevention messages. The strongest advantage to embedding alcohol abuse prevention in a wellness program is that the overall health of the workforce improves, which results in cost savings and a subtle, positive change in the culture of the workplace.

Hemmingsson, T., and I. Lundberg. 2001. "Development of Alcoholism: Interaction Between Heavy Adolescent Drinking and Later Low Sense of Control Over Work." *Alcohol & Alcoholism* 36(3):207-212.

The combined effects of heavy use of alcohol in late adolescence and later unfavorable psychosocial work-environment may contribute to the development of alcoholism. Data on circumstances during childhood and adolescence, including alcohol use, history of police and/or childcare contacts, and emotional stability, were collected for 49,323 young men, born during the period 1949-1951, at the time of enlistment for compulsory military training in 1969 and 1970. On the basis of census data on occupation in 1975, all individuals were classified into groups with regard to the level of work-control (e.g., participation in decision making, variation in job task) in accordance with a job exposure matrix. The background of those men who acquired a diagnosis of alcoholism according to in-patient psychiatric care registers between 1976 and 1983 was examined in relation to their alcohol consumption in adolescence and the nature of their subsequent work environment. It was found that young men with heavy alcohol consumption had an increased risk of developing alcoholism if they later worked in an environment characterized by low control. Quality of work duties and environment can have an impact on alcohol consumption; workers transfer lessons about low control and lack of

responsibility from their jobs to their home lives. These findings were not due to selection of heavy drinkers into low control jobs. Similar results were obtained when data from blue-collar workers were analyzed separately.

Hersch, R.K., and R.F. Cook. 2000. "Workplace Substance Abuse Prevention." *Prevention Pipeline* **13(3):4-7.**

The authors examined the workplace as a unique location for providing substance abuse prevention information. They cite a recent National Household Survey on Drug Abuse, which found that nearly 70 percent of current illegal drug users and 77 percent of all heavy drinkers were employed full-time. The workplace is a unique setting for prevention information because it comprises personal, social, and economic forces affecting a person's life, because employer costs associated with employee substance abuse are a considerable burden, and because it provides a channel for providing prevention information to parents concerning their children. The authors describe historical approaches to employee substance abuse, such as Employee Assistance Programs (EAPs) and drug testing. However, these strategies address substance abuse detection and intervention, rather than prevention. As a result, the authors present and discuss two universal prevention strategies: (1) those that focus on the work culture or work environment and (2) those that focus on individual employees by integrating substance abuse prevention into workplace health promotion or other established workplace programs. The authors then describe a series of substance abuse prevention programs developed by their company that are based on a health promotion model of change. Their research and subsequent programs are funded by the Center for Substance Abuse Prevention (CSAP). Program materials include health promotion classes with substance abuse prevention messages, health promotion and substance abuse prevention mailings, enhanced EAP services and supervisor training, and a promotional campaign designed to increase awareness about health promotion and substance abuse prevention. The authors' preliminary research indicates that health promotion-oriented substance abuse prevention programs have an effect on employee health and medical claims.

Hersch, R.K., R.F. Cook, and D.K. Deitz. 2000. "Methodological Issues in Workplace Substance Abuse Prevention." *Journal of Behavioral Health Services & Research* **27(2):144-151.**

Substance abuse among working adults represents billions of dollars in preventable health care cost and industry financial losses. Therefore, it is imperative to develop and test effective substance abuse prevention programs for the workplace. The major workplace substance abuse interventions—Employee Assistance Programs (EAPs)—do not engage primarily in prevention but in treatment. This is due, in part, to the fact that obtaining useful data on effective substance abuse prevention strategies in the workplace is fraught with numerous methodological challenges. This study highlights a number of these challenges: (1) reaching a broad audience with prevention messages, (2) handling the concerns of the employer, (3) collecting substance abuse data in the workplace, (4) accessing and using records-based data, and (5) linking survey and records-based data. If these challenges can be overcome, the data obtained must allow researchers to assess changes on the individual level of employee attitudes and behavior as well as on the institutional level of turnover, absenteeism, and health care utilization and costs.

Jones, E.R., and G.S. Brown. 2003. "Behavioral Health Care: A Worthwhile Investment?" *Employee Benefit Plan Review* 58(2):13-14.

Kouvonen, A., and T. Lintonen. 2002. "Adolescent Part-Time Work and Heavy Drinking in Finland." *Addiction* 97(3):311-318.

The authors examined the relationship between part-time work and heavy drinking among Finnish adolescents. Cross-sectional survey data were collected in classrooms in 2000. Finnish lower-level secondary students (n = 47,568) from the eighth and ninth grades, aged 14-16, were surveyed; the response rate was 8.2 percent. The authors measured work intensity, work type, and the frequency of heavy drinking, as obtained from self-administered questionnaires. The relationship between work and heavy drinking was studied using polychotomous logistic regression models. Compared with nonworkers, adolescents working more than 10 hours per week had an increased risk of heavy drinking, and also the frequency of heavy drinking was connected with this intensive working. When gender, grade level, parental education, parents' employment status, family structure, economic situation of the family, degree of urbanization, parental control, steady dating, GPA, and disposable allowance were adjusted for, the odds of weekly drunkenness were almost three times the odds of not reporting drunkenness among intensive workers compared with non-workers. When adjusted for other factors, some typical children's jobs marginally decreased a likelihood of heavy drinking. The authors concluded that work does not seem to protect adolescents from heavy drinking. Although many relevant factors were controlled for the effect may, however, be mediated through factors not covered in the survey. Therefore, they state, further clarification of the causal chains linking adolescent working and drinking is needed.

Kouvonen, A., and T. Lintonen. 2002. "Adolescent Work and Drug Experiments." *Journal of Substance Abuse* 7:85-92.

The aim was to examine the relationship between part-time work and experimentation with drugs among Finnish adolescents. Cross-sectional survey data (School Health Promotion Survey, n = 47,568) were collected in classrooms in spring 2000. Respondents were between 14.3 and 16.2 years old. The response rate was 82 percent. Drug use during the past 30 days, work intensity, and work type measures were obtained from self-administered questionnaires. Polychotomous logistic regression was used as the main method of analysis. Working more than 10 hours per week was associated with an increased likelihood of frequent drug use (five times or more) but not of occasional experiments. Similarly, engagement in some types of "adult-like" work was significantly associated with an increased likelihood of frequent drug use.

Lehman, W.E.K., and J.B. Bennett. 2002. "Job Risk and Employee Substance Abuse: The Influence of Personal Background and Work Environment Factors." *American Journal of Drug and Alcohol Abuse* 28(2):263-286.

Previous studies have noted that employees who work in jobs with physical risk report more substance use than employees working in nonrisky jobs. This study examined the extent to which this relationship could be explained by personal background, specifically general deviance or psychosocial functioning, or work characteristics, including job stressors, organizational bonding, or work group drinking climate. Results from two worksites (ns = 943,

923) indicated that the relationship of job risk and alcohol problems could be fully explained by personal characteristics, particularly deviant behavior styles. Interaction effects were also found. Employees with more deviance indicators were particularly susceptible to recent drug use and problem drinking when they worked in drinking climates or were exposed to coworker drinking. These results suggest the joint influence of personal and job factors and support prevention programs that target the workplace social environment.

MacDonald, S., S. Wells, and T.C. Wild. 1999. "Occupational Risk Factors Associated with Alcohol and Drug Problems." *American Journal of Drug and Alcohol Abuse* **25(2):351-369.**

Ames and Janes provide a theoretical framework that explains alcohol and/or drug problems among workers. Existing studies of occupational risk factors for alcohol and drug problems across multiple occupations and industries provide mixed findings with respect to Ames and Janes's framework. In a preliminary study, the relationships between occupational characteristics and measures of alcohol and drug problems were investigated among a sample of workers from a variety of occupations and industry settings. Some support was found for all of the major elements of Ames and Janes's framework: normative regulation of drinking, quality and organization of work, workplace factors and drinking subcultures.

Mangione, T.W., J. Howland, B. Amick, J. Cote, M. Lee, N. Bell, and S. Levine. 1999. "Employee Drinking Practices and Work Performance." *Journal of Studies on Alcohol* **60(2):261-270.**

The purpose of this study was to examine the independent effects of a variety of drinking indicators on self-reported work performance. To do so, the authors analyzed data from a cross-sectional mailed survey (response rate = 71 percent) of managers, supervisors, and workers (N = 6,540) at 16 worksites. Average daily volume was computed from frequency and usual quantity reports. Drinking on the job included drinking during any of six workday situations. The CAGE was used to indicate alcohol dependence. Employees were also asked how frequently they drank to get high or drunk. Work performance was measured through a series of questions about work problems during the prior year. The number of times respondents experienced work performance problems was regressed in the four drinking measures, and a variety of demographic characteristics, job characteristics, and life circumstances that might also negatively affect work performance. The authors found that the frequency of self-reported work performance problems increased, generally, with all four drinking measures. In a multivariate model that controlled for a number of demographics, job characteristics, and life situations, average daily volume was no longer significantly associated with work performance but the other three drinking measures were. Interestingly, although moderate-heavy and heavy drinkers reported more work performance problems than very light, light, or moderate drinkers, the lower-level-drinking employees, since they were more plentiful, accounted for a larger proportion of work performance problems than did the heavier drinking groups. The authors concluded that employers should develop clear policies limiting drinking on the job, and, in addition to Employee Assistance Programs for problem drinkers, should develop worksite educational interventions aimed at informing all employees about the relationship between drinking behaviors and work performance.

McMorris, B.J., and C. Uggen. 2000. "Alcohol and Employment in the Transition to Adulthood." *Journal of Health and Social Behavior* **41(3):276-294.**

The authors examined the relationship between work hours and alcohol use during the transition from adolescence to adulthood. Both hours of employment and drinking may be products of weak bonds to school and family. Alternatively, work may exert an independent effect on alcohol use by exposing adolescents to opportunities and associates that facilitate drinking. Using longitudinal data from the Youth Development Study (YDS), the authors presented static score regression models showing that long work hours increase levels of drinking during high school. These effects were mediated in large part by work-derived independence from parents, suggesting that a precocious transition to adult roles may be the mechanism connecting work hours and alcohol use. Work effects on drinking are short-lived, however, as adolescent hours employment did not significantly influence alcohol use after high school.

Mitchell, D.P., A. Betts, and M. Epling. 2002. "Youth Employment, Mental Health and Substance Misuse: A Challenge to Mental Health Services." *Journal of Psychiatric and Mental Health Nursing* **9:191-198.**

Employment is the cornerstone of social inclusion, the means by which individuals play a full and active part in society and has a pivotal role in helping young people to negotiate the transitional period between the child and adulthood. Employment therefore should be seen as a right and given a higher priority by health and social care agencies. There are numerous difficulties preventing some young people from achieving full employment and these are compounded for young people with concurrent mental health and substance misuse problems (dual diagnosis). The coexistence of these two problems is on the increase and they are recognized as significant barriers to employment. Unemployment may lead to social alienation, criminal or other antisocial activity and a higher incidence of suicide. Consequently, there is a danger of young unemployed people slipping into a spiral of self-defeating, antisocial, and risky behavior. There is little evidence of health and social care agencies working in partnership with voluntary sector organizations to tackle the growing problem of dual diagnosis and youth unemployment, although there are obvious linkages between employment, psychological health, social inclusion, and substance misuse. It is therefore worth exploring the issues surrounding work, mental health, and substance misuse in young people if we are to generate new ways of thinking about and responding to the needs of this target group. This presents a challenge to mental health services, particularly nurses who face the impact of these issues in their day-to-day practice but often lack the preparation and support to adequately address them.

Moore, R.S., J.M. Light, G.M. Ames, and R.F. Saltz. 2001. "General and Job-Related Alcohol Use and Correlates in a Municipal Workforce." *American Journal of Drug and Alcohol Abuse* **27(3):543-560.**

The authors examined the prevalence and correlates of both general and workplace-related drinking measures using data from a telephone survey of 673 workers in a large municipal bureaucracy and tested the hypothesis that observed differences across job categories can be explained by compositional difference in terms of demographic variables known to be related to drinking behavior. Results suggest such factors account for much of the variation in general drinking measures (prior 28-day quantity, CAGE score, indicating risk for dependence), but that significant variation in a workplace-related drinking measure (times ever drank before, during, or just after work) remains even after such factors are controlled. Implications of these findings for existing theories of workplace effects on drinking are discussed, along with a consideration of appropriate levels of analysis for future studies.

Nyhan, P. 2003. "Recovering Addicts Find Little Help in the Workplace." *Seattle Post-Intelligencer* **December 15:n.p.**

Over half of human resources managers surveyed by the Hazelden Foundation said they lacked the expertise to detect substance abuse in the workplace. There is often a disconnect between availability of services and employees' use of them. More than 90 percent of human resources managers said that employees could easily get substance abuse treatment, but 38 percent said that no employees used the services. Providing treatment services may not be sufficient in itself to help employees who struggle with substance abuse.

Paschall, M.J., C.L. Ringwalt, and R.L. Flewelling. 2002. "Explaining Higher Levels of Alcohol Use among Working Adolescents: An Analysis of Potential Explanatory Variables." *Journal of Studies in Alcohol* **63(2):169-178.**

The purpose of this study was to explain higher rates of alcohol use observed among working adolescents relative to non-working adolescents. To do so, the authors collected in-home survey data from a representative sample of 4,497 14- to 17-year-olds who participated in the 1998 National Household Survey on Drug Abuse (NHSDA). Multivariate logistic regression analyses were conducted to determine whether relationships between work status and past-month alcohol use and heavy drinking would persist after adjusting for demographic characteristics and select risk and protective factors in the community, family, school, and peer-individual domains. As anticipated, significantly higher rates of past-month alcohol use and heavy drinking were reported by working than non-working adolescents. Multivariate analyses indicated that the higher rates of past-month alcohol use and heavy drinking among working adolescents were largely explained by demographic characteristics (e.g., age, race/ethnicity), together with perceived drinking norms among adults, other students, and friends. The authors' findings suggest that the relationship between employment and alcohol use among adolescents is largely spurious, due to demographic differences between working and non-working adolescents. However, their findings also suggest that working adolescents are more likely to be exposed to adults and peers who drink, which may be attributed in part to their work setting.

Reynolds, G.S., and W.E. Lehman. 2003. "Levels of Substance Use and Willingness to Use the Employee Assistance Program." *Journal of Behavioral Health Services & Research* 30(2):238-248.

Individuals with drinking and drug problems may become particularly reluctant to seek help. To remove barriers to services, more needs to be understood about factors that influence help-seeking decisions. The authors hypothesized that certain social psychological influences (attitudes, group cohesion, trust in management) might buffer a reluctance to use services provided by an external Employee Assistance Program (EAP). A random sampling of municipal employees (n = 793) completed anonymous questionnaires that assessed willingness to use the EAP, individual drinking and drug use, attitudes toward policy, work group cohesion, and trust in management. Data from the questionnaires were analyzed with multivariate regression analyses to examine the interacting effects of substance abuse and proposed moderators (gender, race, awareness of the EAP, perceptions of policy, cohesion) on willingness to use the EAP. The results demonstrated that although substance abusers were less willing to use the EAP than were nonusers, substance abusers who were aware of the EAP, who had favorable attitudes toward policy, and who did not tolerate coworker substance abuse were as willing to use the EAP as were nonusers. The results also showed that employees with greater awareness of the EAP, support for policy, and perceptions of work group cohesion reported significantly greater willingness to use the EAP than did employees with relatively less awareness of the EAP, policy support, and cohesion. Workplace prevention efforts that are designed to increase the use of EAP services should intentionally target the workplace environment and social context. Creating the awareness and favorability of the EAP, policy, and work group cohesion might buffer substance abusers' reluctance to seek help.

Safron, D.J., J.E. Schulenberg, and J.G. Bachman. 2001. "Part-Time Work and Hurried Adolescence: The Links among Work Intensity, Social Activities, Health Behaviors, and Substance Use." *Journal of Health and Social Behavior* 42(4):425-449.

The authors examined adolescents' part-time work intensity and its relation to participation in various activities as well as substance use. The authors considered mechanisms articulated in two theoretical perspectives on how high work intensity is associated with substance use: (1) the "time trade-off perspective," and (2) "the precocious development perspective." The authors drew nationally representative data from the Monitoring the Future project from eighth, tenth, and twelfth grade students (overall N = 380,000) to address their research questions. Work intensity was found to be linked to more time spent on unstructured social activities but to less time spent engaged in sports, health behaviors, and school-related activities. Social time use and health behaviors were found to partially mediate the relationship between work hours and substance use. Overall, results provide evidence for a combination of both perspectives.

Schinke, S., P. Brounstein, and P. Gardner. 2002. *Science-Based Prevention Programs and Principles*. Rockville, MD: Center for Substance Abuse Prevention, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services.

Schuster, C., P.M. O'Malley, J.G. Bachman, L.D. Johnston, and J. Schulenberg. 2001. "Adolescent Marijuana Use and Adult Occupational Attainment: A Longitudinal Study from Age 18 to 28." *Substance Use & Misuse* 36(8):997-1014.

The authors used data from a nationally representative longitudinal sample to examine the relationships of marijuana use by high school seniors to occupational attainment 10 years later. Analyses were conducted separately by gender, with and without controlling for other variables. Control variables, all measured when respondents were seniors, were academic performance, educational aspirations, and occupational aspirations. Results indicate that the influence of marijuana use on occupational attainment is considerably different for males and females.

Snow, D.L., S.C. Swan, and L. Wilton. 2003. "A Workplace Coping-Skills Intervention to Prevent Alcohol Abuse." In *Preventing Workplace Substance Abuse: Beyond Drug Testing to Wellness*. J.B. Bennett and W.E.K. Lehman, eds., pp. 57-96. Washington, DC: American Psychological Association.

The authors of this book chapter reported that the prevalence and severity of alcohol problems result in substantial direct and indirect social and economic costs in the workplace. In this chapter, they first present a model, central to prevention research and intervention, that focuses on the identification and modification of key risk and protective factors that influence such health-related behaviors and outcomes as alcohol use and abuse. The authors then summarize research linking selected risk and protective factors to alcohol use, namely work and work-family stressors, social support, and individual coping strategies. They then describe a workplace coping-skills intervention that is based on that model and present findings from two studies that examined the effects of the intervention on employee alcohol use. The authors conclude by discussing lessons learned and suggesting possible directions for future workplace research and intervention strategies.

Substance Abuse and Mental Health Services Administration (SAMHSA). 2002. "Employers Urged to Target Younger Employees in Drug Prevention Efforts." *Workplace Substance Abuse Advisor* 17(3):1-6.

Trudeau, J.V., D.K. Deitz, and R.F. Cook. 2002. "Utilization and Cost of Behavioral Health Services: Employee Characteristics and Workplace Health Promotion." *Journal of Behavioral Health Services & Research* 29(1):61-74.

The authors of this article sought to (1) model demographic and employment-related influences on behavioral health care utilization and cost; (2) model behavioral health care utilization and cost influences on general health care cost, job performance, and earnings; and (3) assess workplace-based health promotion's impact on these factors. Behavioral health care utilization was more common in employees who were female, over age 30, with below-median earnings, or with above-median general (non-behavioral) health care costs. Among employees utilizing behavioral health care, related costs were higher for employees with below-median earnings. Employees utilizing behavioral health care had higher general health care costs and received lower performance ratings than other employees. Health promotion participants were compared with a nonparticipant random sample matched on gender, age, and pre-intervention behavioral health care utilization. Among employees without pre-intervention behavioral health care, participants and nonparticipants did not differ in post-intervention utilization. Among

employees utilizing behavioral health care adjusting for pre-intervention costs, participants had higher short-term post-intervention behavioral health care costs than nonparticipants.

Valois, R.F., A.C. Dunham, K.L. Jackson, and J. Waller. 1999. "Association between Employment and Substance Abuse Behaviors among Public High School Adolescents." *Journal of Adolescent Health* **25(4):256-263.**

The authors examined the relationship between adolescents' after-school and weekend employment and substance abuse behaviors in a cross-sectional sample of public high school students in South Carolina. To do so, the authors used the Centers for Disease Control and Prevention Youth Risk Behavior Survey (YRBS) to secure usable data from 4,800 subjects. They found that 30 percent of White males, 29 percent of White females, and 20 percent of Black males and females worked at a job for pay during the academic year. For White males, employment ranging from 11 to 15 hours and 26 to >31 hours was associated with cigarette smoking, working from 11 to >31 hours was associated with alcohol use, working >31 hours was associated with binge drinking, working from 26 to >31 hours was associated with marijuana use, and working from 26 to 30 hours was associated with cocaine use. For White females, working from 16 to 20 hours was associated with alcohol use, working from 21 to 30 hours was associated with binge drinking, and working from 26 to 30 hours was associated with marijuana and cocaine use.

Veazie, M.A., and G.S. Smith. 2000. "Heavy Drinking, Alcohol Dependence, and Injuries at Work among Young Workers in the United States Labor Force." *Alcoholism, Clinical and Experimental Research* **24(12):1811-1819.**

To determine whether heavily drinking and alcohol-dependent workers are at higher risk of occupational injury, the authors analyzed the nationally representative cohort of people enrolled in the National Longitudinal Survey of Youth since 1979. This analysis was restricted to the 8,569 respondents in the 1989 annual interview (age 24-32) who were employed during the 6 months before the interview. We studied occupational injuries (excluding sprains or strains) reported within 6 months of the interview in 1989 (cross-sectional analysis) and 1990 (prospective analysis). Among current drinkers, significant twofold increases in the odds of injury for one or more episodes of heavy drinking were reduced to an odds ratio (OR) of 1.2 (95 percent confidence interval [CI] = 0.7, 2.1) in the cross-sectional analysis and an OR of 1.6 (CI 1.0, 2.8) in the prospective analysis after adjustment for confounding. No dose-response relationship with the frequency of heavy drinking was found. Alcohol-dependent respondents were not at higher risk of injury in the cross-sectional (OR = 1.1, CI 0.7, 1.8) or prospective (OR = 1.3, CI 0.8, 2.2) analyses after adjustment for confounding. For young U.S. workers, common occupational injuries (excluding sprains and strains) may not be strongly associated with alcohol dependence. Confounding by other risk factors may explain much of the association between being a heavy drinker and occupational injuries in this population.

Wegman, D.H., and L.K. Davis. 1999. "Protecting Youth at Work." *American Journal of Industrial Medicine* **36:579-583.**

The National Research Council's report "Protecting Youth at Work" addresses the health and safety consequences of work by youth in the United States. The report finds that a higher

proportion of U.S. youth work than in any other developed nation and that as much as 80 percent of youth will have worked during their high school years. The majority of adolescents are employed in the retail and service sectors. Positive aspects of this work include lessons in responsibility, punctuality, dealing with people, good money management, and gaining self-esteem, independence, and new skills. On the negative side, however, students who work long hours are less likely to advance as far in school as other students, are more likely to smoke cigarettes and use illegal drugs, be involved in other deviant behavior, may get insufficient sleep and exercise, and may spend less time with their family. Working youth appear to have injury rates (4.9 per 100 FTE) almost twice that of adult workers (2.8 per 100 FTE). There is evidence that each year over 200,000 youth experience work injuries and at least 70 die. The report includes an extensive list of recommendations to safeguard the health and well-being of young workers: improved government regulations as well as their enforcement, better data collection and analysis to provide essential information on the distribution and consequences of youth employment, education of key actors such as employers, parents, teachers, and the youth themselves, and research to fill critical knowledge gaps.

Wickizer, T.M., B. Kopjar, G. Franklin, and J. Joesch. 2004. "Do Drug-Free Workplace Programs Prevent Occupational Injuries? Evidence from Washington State." *Health Service Research* 39(1):91-110.

This study evaluates the effect of a publicly sponsored drug-free workplace program on reducing the risk of occupational injuries, by examining workers' compensation claims data from the Washington State Department of Labor and Industries covering the period 1994 through 2000 and work-hours data reported by employers. The authors used a pre-post design with a nonequivalent comparison group to assess the impact of the intervention on injury risk, measured in terms of differences in injury incidence rates. Two hundred and sixty-one companies that enrolled in the drug-free workplace program during the latter half of 1996 were compared with approximately 20,500 nonintervention companies. The authors tested autoregressive, integrated moving-average (ARIMA) models to assess the robustness of our findings. The drug-free workplace intervention was associated ($p < .05$) with a statistically significant decrease in injury rates for three industry groups: construction, manufacturing, and services. It was associated ($p < .05$) with a reduction in the incidence rate of more serious injuries involving four or more days of lost work time for two industry groups: construction and services. The drug-free workplace program we studied was associated with a selective, industry-specific preventive effect. The strongest evidence of an intervention effect was for the construction industry. Estimated net cost savings for this industry were positive though small in magnitude.

Workplace Substance Abuse Advisor. 2002. "Employers Urged to Target Younger Employees in Drug Prevention Efforts." *Workplace Substance Abuse Advisor* 17(3):1, 6.

Given that most people between the ages of 18 and 49 who abuse substances are employed, the workplace is an ideal location for substance abuse prevention efforts. Workplace policies such as drug testing and employee assistance programs do influence behavior and can reduce substance use. The director of SAMHSA's Division of Workplace Programs calls for more early

intervention programs, especially those that target employees aged 18 to 25, who have the highest rates of illicit substance use.

Wu, L.T., W.E. Schlenger, and D.M. Galvin. 2003. "The Relationship between Employment and Substance Use among Students Aged 12 to 17." *Journal of Adolescent Health* 32(1):5-15.

The authors examined the association between employment status and substance use among students aged 12 to 17 years. To do so, they conducted secondary analysis of data from the 1995 and 1996 National Household Surveys on Drug Abuse. The survey is a primary source of data on licit and illicit drug use among noninstitutionalized Americans aged 12 years or older. The authors found that about one in six adolescents reported both going to school and holding a job. Approximately one-fourth of students smoked cigarettes, and one-third consumed alcohol in the past year. An estimated 1.6 percent of students were current heavy cigarette smokers, and 2.6 percent were current heavy alcohol users. One-year prevalence estimates of any illicit drug use and heavy illicit drug use were 16.7 percent and 1.8 percent, respectively. Among students employed full time, prevalence estimates increased to 9.7 percent for heavy cigarette smoking, 13.1 percent for heavy alcohol use, 38.1 percent for any illicit drug use, and 5.0 percent for heavy illicit drug use. Logistic regression analyses supported relatively high rates of cigarette use, alcohol use, illicit drug use, and heavy substance use among working students. Mental health problems, especially externalizing behavioral syndromes, were found to coexist with the use and heavy use of substances. The observed associations varied somewhat by gender. The authors concluded that the workplace may be an appropriate venue for establishing substance use prevention and early intervention programs focused on younger workers, including adolescents who work part time.

YOUTH DEVELOPMENT, STUDENT ASSISTANCE, AND TRANSITION INTO THE WORKPLACE

Barlieb, D., V. Liberto, and J. Roberts. 2000. "Integrating a Solution-Focused Model into SAPs." *Student Assistance Journal* (Fall).

Student assistance programs (SAPs) aim to identify troubled students and connect them with services in the school and the community. SAPs perform six functions: early identification of problems, such as substance use, assessment, intervention, referral, support, and case management. A solutions-focused approach (also known as a competency-based approach) can be incorporated into each of these functions. The competency-based model seeks solutions to problems by identifying and building on students' strengths, rather than focusing on deficits and limitations. Health and progress are emphasized over pathology and delinquency. Because no problem is *always* present, students can be coached to recognize exceptions to problem behaviors and identify the resources they use to bring about and maintain those exceptions. A solutions-focused approach is committed to the idea that small changes are possible and that small changes precede larger changes. To transform a problem-focused SAP into a competency-based SAP, counselors and team members must reconfigure the way data are collected and organized. Eliciting student strengths along with a description of their

problems is an essential first step. This article provides a series of questions that can shape data collection and help integrate a solutions-focused approach.

Berry, P. 2002. "Motivating Change." ***Student Assistance Journal* (Spring).**

Student assistance programs (SAPs) aim to identify troubled students and connect them with services in the school and the community. This article discusses how counselors can use motivational interviewing techniques to implement a solutions-focused (or competency-based) approach to addressing problem behaviors, such as substance use. Motivational interviewing helps bring students to a point where they want to change their behavior. Through questioning, listening, and reframing what students say, the counselor helps students explore their behavior, weigh its pros and cons, clarify goals, identify steps to reach those goals, and establish strategies to maintain progress achieved.

Fertman, C.I., C. Fichter, J. Schlesinger, S. Tarasevich, H. Wald, and X. Zhang. 2001. "Evaluating the Effectiveness of Student Assistance Programs in Pennsylvania." ***Journal of Drug Education* 31(4):353-366.**

The authors present data from an evaluation of the Pennsylvania Student Assistance Program (SAP). Focusing on both program process and effectiveness, the evaluation was conducted to determine the overall efficacy of SAPs in Pennsylvania and, more specifically, how SAP is currently being implemented. Five data collection strategies were employed: statewide surveys of SAP team members and county administrators, focus groups, site visits, and the Pennsylvania Department of Education SAP Database. A total of 1,204 individual team members from 154 school buildings completed the team member survey. Fifty-three county administrators completed the county administrator survey. Focus groups were comprised of SAP coordinators, school board personnel, and community agency staff. Site visits were conducted at five schools. Findings of the evaluation indicate that SAP in Pennsylvania is being implemented as designed. Recommended is the development of benchmarks and indicators that focus on the best SAP practices and the extent to which various indicators of the effectiveness of SAP are occurring at appropriate levels.

Lapan, R.T., B. Tucker, S.-K. Kim, and J.F. Kosciulek. 2003. "Preparing Rural Adolescents for Post-High School Transitions." ***Journal of Counseling and Development* 81(3):329-342.**

The authors evaluated the impact of four career development curricular strategies and emotional/instrumental support in preparing rural adolescents to make successful post-high school transitions. Curriculum strategies and perceived support helped eighth-, tenth-, and twelfth-grade students attain critical aspects of career development, enhanced student satisfaction that their education was better preparing them to achieve future educational and career goals, and increased student intentions to enter post-high school settings that required greater levels of education and training. Girls reported earning higher grades and participating in more work-based learning activities and intended to enter post-high school training settings that required more education than did boys

Lerner, R.M., C. Brentano, and E.M. Dowling. 2002. "Positive Youth Development: Thriving as the Basis of Personhood and Civil Society." *New Directions for Youth Development* **95:11-33.**

In this article, the authors conceptualize positive youth development within a developmental systems model. They begin by explaining developmental systems, relative plasticity, and regulation of person-context relations as a context for understanding human behavior and developmental change. The authors then discuss the role of thriving processes and civic engagement in positive youth development. They conclude that thriving is likely to emerge when youth develop in a context of policies and community action programs that help them build and pursue healthy lives that make a productive contribution to self, family, and community. Such contexts include a healthy start, safe environment, education for marketable skills, opportunity to give back or to serve the community, and freedom from prejudice and discrimination.

Partee, G.L. 2003. Preparing Youth for Employment: Principles and Characteristics of Five Leading United States Youth Development Programs. Washington, DC: American Youth Policy Forum.

This report, designed for policymakers and practitioners who implement programs, provides an overview of five leading U.S. youth employment programs: Job Corps, National Guard Youth ChalleNGe Program, STRIVE, YouthBuild, and Youth Service and Conservation Corps. These programs have proved to be effective in contributing to increased levels of employment, higher earnings, high school completion, college attendance, reduced reliance on public assistance, and reduced criminal activity. This report details the principles and characteristics of these five leading youth employment programs and identifies components that can be transferred or applied to aid other programs.

Richmond, J. 2000. "New Partnerships and New Systems: Supporting Young People's Growth and Job Readiness." *CYD Journal* **1(1):20-25.**

This article profiles seven Community Youth Development programs that are making a difference in young people's lives. The programs share common themes, such as merging youth programs with economic development efforts, job training, and education. The article highlights the Living Classroom Foundations, an organization that served more than 50,000 students in 35 programs in 2000. The program is based on the philosophy that students respond to real-world academics and the "world of work" far more readily than they do to traditional classrooms. The article also highlights the Latino Community Development Agency in Oklahoma City, a multigenerational program that brings together numerous community agencies and businesses to offer programs to youth and their families. The Food Project offers a 7-week farm program in which participants grow organic produce and sell the produce at the Boston Farmer's Market. The Quitman County Community Development Organization in Mississippi has worked with Black churches to develop joint community programs such as a homeless shelter, a Meals on Wheels program, a thrift store, and a food pantry. The author suggests that giving youth responsibility and expecting accountability is at the core of most successful youth development initiatives. The author highlights additional community development programs and suggests that engaging communities, educational institutions,

youth-serving agencies, and parents to plan and implement learning opportunities for all young people is an ambitious, yet achievable agenda.

Scott, D.M., J.L. Surface, D. Friedli, and T.W. Barlow. 1999. "Effectiveness of Student Assistance Programs in Nebraska Schools." *Journal of Drug Education* **29(2):165-174.**

The authors of this article investigated whether Nebraska schools with Student Assistance Programs (SAP) are associated with reduced adolescent alcohol use and a higher level of academic achievement than students from schools without a SAP. To do so, in 1992, they administered the Toward a Drug Free Nebraska (TDFN) survey to 3,353 students in grades 7 to 12 at 83 Nebraska schools. A second survey, the TDFN "team activity report" collected from each school's team, reported the presence of a SAP (n = 34 schools) or absence of a SAP (n = 49 schools). Student responses for alcohol use and academic achievements were linked with the presence of an SAP through use of a school identification number on both surveys. Students from schools with an SAP reported a lower use of alcohol in the last 30 days, compared with students from schools without an SAP program, and they also reported a significant difference in academic achievement. While this study used post hoc analysis of data, results suggest lower alcohol use and higher academic achievement among students from SAP schools. Given SAPs' popularity, these trends suggest that further research should be conducted to demonstrate the effectiveness of student assistance programs.

Yohalem, N., and K. Pittman. 2001. *Powerful Pathways: Framing Options and Opportunities for Vulnerable Youth.* **Takoma Park, MD: The Forum for Youth Investment, International Youth Foundation.**

This report approaches the transitions that vulnerable youth undergo—from jail back to the community, from foster care to independent living, from high school to college—as opportunities to develop youths' skills and build their resiliency. Too often, fragmented support systems and isolated agencies become part of the problem. The authors assert that ill-served, vulnerable youth can transform their lives if support is delivered in a coordinated and comprehensive manner and builds on youths' strengths (so-called wraparound services). These services are both available and cost-effective. This report discusses who vulnerable youth are, the obstacles they face, the integrated strategies that can help transform their lives, and the perceptions that must change in order for long-term change to take hold.

FURTHER CONSIDERATIONS: YOUTH DEPRESSION PREVENTION AND TRANSITION INTO ADULTHOOD

Arnett, J.J. 2000. "Emerging Adulthood: A Theory of Development from the Late Teens Through the Twenties." *American Psychologist* **55(5):469-480.**

Emerging adulthood is proposed as a new conception of development for the period from the late teens through the twenties, with a focus on ages 18 to 25. A theoretical background is presented, and evidence is then provided to support the idea that emerging adulthood is a distinct period demographically, subjectively, and in terms of identity explorations. How emerging adulthood differs from adolescence and young adulthood is explained. Finally, the

authors outline a cultural context for the idea of emerging adulthood and specify that emerging adulthood exists only in cultures that allow young people a prolonged period of independent role exploration during the late teens and twenties.

Clarke, G.N., M. Hornbrook, F. Lynch, M. Polen, J. Gale, W. Beardslee, E. O'Connor, and J. Seeley. 2001. "A Randomized Trial of a Group Cognitive Intervention for Preventing Depression in Adolescent Offspring of Depressed Patients." *Archives of General Psychiatry* **58:1127-1134.**

This investigation attempted to prevent unipolar depressive episodes in a sample of high school adolescents with an elevated risk of depressive disorder. Adolescents at risk for future depressive disorder by virtue of having elevated depressive symptomatology were selected with a two-stage case-finding procedure. The Center for Epidemiologic Studies-Depression Scale (CES-D) was administered to 1,652 students; adolescents with elevated CES-D scores were interviewed with the Schedule for Affective Disorders and Schizophrenia for School-Age Children. Subjects with current affective diagnoses were referred to nonexperimental services. The remaining 150 consenting subjects were considered at risk for future depression and randomized to either a 15-session cognitive group prevention intervention or a "usual care" control condition. Subjects were reassessed for DSM-III-R diagnostic status after the intervention and at 6- and 12-month follow-up points. Survival analyses indicated a significant 12-month advantage for the prevention program, with affective disorder total incidence rates of 14.5 percent for the active intervention versus 25.7 percent for the control condition. No differences were detected for nonaffective disorders across the study period. Depressive disorder can be successfully prevented among adolescents with an elevated future risk.

Gillham, J.E., A.J. Shatté, and D.R. Freres. 2000. "Preventing Depression: A Review of Cognitive-Behavioral and Family Interventions." *Applied and Preventive Psychology* **9:63-88.**

Depression is one of the most common psychological disorders. It is associated with tremendous costs in terms of suffering, decrease in productivity, and loss of life. For many individuals, depression is a disorder that will recur throughout life. Recent findings suggest that the prevalence of depression is on the rise, particularly in young people. Clearly, depression prevention is an important goal. This article reviews research on interventions designed to prevent episodes and symptoms of unipolar depression in adults and children. This review focuses specifically on cognitive behavioral and family interventions, discusses what researchers have learned about the prevention of depression, and concludes with recommendations for future investigations.

Lewinsohn, P.M., P. Rohde, D.N. Klein, and J.R. Seeley. 1999. "Natural Course of Adolescent Major Depressive Disorder: I. Continuity Into Young Adulthood." *Journal of the American Academy of Child & Adolescent Psychiatry* **38(1):56-63.**

This article examines the course of adolescent major depressive disorder (MDD) by comparing rates of mood and nonmood disorders between age 19 and 24 years in participants with a history of adolescent MDD versus participants with adolescent adjustment disorder with depressed mood, nonaffective disorder, and no disorder. Participants from a large community sample who had been interviewed twice during adolescence completed a third interview

assessing Axis I psychopathology and antisocial and borderline personality disorders after their 24th birthday: 261 participants with MDD, 73 with adjustment disorder, 133 with nonaffective disorder, and 272 with no disorder through age 18. MDD in young adulthood was significantly more common in the adolescent MDD group than the nonaffective and no disorder groups (average annual rate of MDD = 9.0 percent, 5.6 percent, and 3.7 percent, respectively). Adolescents with MDD also had a high rate of nonaffective disorders in young adulthood (annual nonaffective disorder rate = 6.6 percent) but did not differ from adolescents with nonaffective disorder (7.2 percent). Prevalence rates of dysthymia and bipolar disorder were low (<1 percent). Adolescents with adjustment disorder exhibited similar rates of MDD and nonaffective disorders in young adulthood as adolescents with MDD. This study documents the significant continuity of MDD from adolescence to young adulthood.

Lewinsohn, P.M., P. Rohde, J.R. Seeley, D.N. Klein, and I.H. Gotlib. 2000. "Natural Course of Adolescent Major Depressive Disorder in a Community Sample: Predictors of Recurrence in Young Adults." *American Journal of Psychiatry* 157(10):1584-1591.

The primary purpose was to identify factors related to the recurrence of major depressive disorder during young adulthood (19-23 years of age) in a community sample of formerly depressed adolescents. A total of 274 participants with adolescent-onset major depressive disorder were assessed twice during adolescence and again after their 24th birthday. Lifetime psychiatric information was obtained from their first-degree relatives. Adolescent predictor variables included demographic characteristics, psychosocial variables, characteristics of adolescent major depressive disorder, comorbidity, family history of major depressive disorder and nonmood disorder, and antisocial and borderline personality disorder symptoms. Low levels of excessive emotional reliance, a single episode of major depressive disorder in adolescence, low proportion of family members with recurrent major depressive disorder, low levels of antisocial and borderline personality disorder symptoms, and a positive attributional style (males only) independently predicted which formerly depressed adolescents would remain free of future psychopathology. Female gender, multiple major depressive disorder episodes in adolescence, higher proportion of family members with recurrent major depressive disorder, elevated borderline personality disorder symptoms, and conflict with parents (females only) independently predicted recurrent major depressive disorder. Comorbid anxiety and substance use disorders in adolescence and elevated antisocial personality disorder symptoms independently distinguished adolescents who developed recurrent major depressive disorder comorbid with nonmood disorder from those who developed pure major depressive disorder. Formerly depressed adolescents with the risk factors identified in this study are at elevated risk for recurrence of major depressive disorder during young adulthood and therefore warrant continued monitoring and preventive or prophylactic treatment.

MacMillan, H.L., J.E. Fleming, D.L. Streiner, E. Lin, M.H. Boyle, E. Jamieson, E.K. Duku, C.A. Walsh, M.Y. Won, and W.R. Beardslee. 2001. "Childhood Abuse and Lifetime Psychopathology in a Community Sample." *American Journal of Psychiatry* **158(11):1878-1883.**

The authors assessed lifetime psychopathology in a general population sample and compared the rates of five psychiatric disorder categories between those who reported a childhood history of either physical or sexual abuse and those who did not. A modified version of the Composite International Diagnostic Interview and a self-completed questionnaire on child abuse were administered to a probability sample (N=7,016) of Ontario residents 15 to 64 years of age. Those reporting a history of childhood physical abuse had significantly higher lifetime rates of anxiety disorders, alcohol abuse/dependence, and antisocial behavior and were more likely to have one or more disorders than were those without such a history. Women, but not men, with a history of physical abuse had significantly higher lifetime rates of major depression and illicit drug abuse/dependence than did women with no such history. A history of childhood sexual abuse was also associated with higher rates of all disorders considered in women. In men, the prevalence of disorders tended to be higher among those who reported exposure to sexual abuse, but only the associations with alcohol abuse/dependence and the category of one or more disorders reached statistical significance. The relationship between a childhood history of physical abuse and lifetime psychopathology varied significantly by gender for all categories except for anxiety disorders. Although not statistically significant, a similar relationship was seen between childhood history of sexual abuse and lifetime psychopathology. A history of abuse in childhood increases the likelihood of lifetime psychopathology; this association appears stronger for women than men.

Martin, A., and D.J. Cohen. 2000. "Adolescent Depression: Window of (Missed?) Opportunity." *American Journal of Psychiatry* **157(10):1549-1551.**

Major depression, one of the most common psychiatric disorders of adolescence, can result in substance abuse, academic and social derailment, unplanned pregnancy, and suicide. Follow-up studies of depressed adolescents show high rates of recurrence and continuity into adult affective disorder. In a study cited by the authors (Lewinsohn et al. 2000), only one-quarter of depressed teenagers are free of illness on their 24th birthday. This study also recorded a high rate of substance abuse disorders. Twenty percent of depressed teens had a comorbid substance abuse disorder and substance abuse disorders represented almost 80 percent of nonmood outcomes by age 24. This study, along with others, suggests a progression from depression into substance abuse. Early detection and treatment of adolescents with depression provides a therapeutic opportunity to reduce the future burden of substance abuse. Vulnerability factors for depression identified by Lewinsohn et al. (female gender, family members with concurrent depression, multiple depressive episodes, conflict with parents, borderline personality) cover a variety of factors. The authors argue for an equally broad and multivalent treatment approach that includes pharmacotherapy, family therapy, and psychotherapy.

Pine, D.S., E. Cohen, P. Cohen, and J. Brook. 1999. "Adolescent Depressive Symptoms as Predictors of Adult Depression: Moodiness or Mood Disorder?" *American Journal of Psychiatry* 156(1):133-135.

The authors examine the relationship between subclinical depressive symptoms in adolescence and major depressive episodes in adulthood. An epidemiologic sample of 776 young people received psychiatric assessments in 1983, 1985, and 1992. Among adolescents not meeting criteria for major depression, the authors estimated the magnitude of the association between subclinical adolescent depressive symptoms and adult major depression. Symptoms of major depression in adolescence strongly predicted an adult episode of major depression: having depressive symptoms more than two standard deviations above the mean in number predicted a two-fold to three-fold greater risk for an adult major depressive episode. Symptoms of depression in adolescence strongly predict an episode of major depression in adulthood, even among adolescents without major depression.

Reinherz, H.Z., R.M. Giaconia, A.M. Carmola-Hauf, M.S. Wasserman, and A.B. Silverman. 1999. "Major Depression in the Transition to Adulthood: Risks and Impairments." *Journal of Abnormal Psychology* 108(3):500-510.

An ongoing longitudinal community study (N = 375) examined childhood risks and later adult impairments associated with 1-year DSM III-R diagnoses of major depression during the transition to adulthood. Risks from birth to age 9 were reported by mother, participants, and teachers. Teacher-reported hostility at age 6 predicted later depression. At age 9, self-perceptions of anxiety/depression, unpopularity, familial rejection, and abuse were potent risks. For men, neonatal and childhood health problems predicted later depression. For women, risks included family constellation, parental death, and poor academic achievement at age 9. Men and women who were depressed at age 18, age 21, or both demonstrated extensive psychosocial impairments in early adulthood, including poor overall functioning, interpersonal and behavioral problems, low self-esteem, and suicidality.

Reinherz, H.Z., R.M. Giaconia, A.M. Carmola-Hauf, M.S. Wasserman, and A.D. Paradis. 2000. "General and Specific Childhood Risk Factors for Depression and Drug Disorders by Early Adulthood." *Journal of the American Academy of Child & Adolescent Psychiatry* 39(2):223-231.

This study identifies childhood risk factors that predict depression and drug disorders by early adulthood, distinguishing between general risk factors for both disorders and specific risk factors for each individual disorder. Within a longitudinal community study (N = 360), familial and behavioral-emotional characteristics were assessed in early childhood (ages 5, 6, and 9 years). At age 21, the Diagnostic Interview Schedule, version III-revised, provided lifetime diagnoses of major depression and drug abuse/dependence. Sibling substance use disorders predicted depression and drug disorders for both genders. Feelings of anxiety, depression, and peer rejection were general predictors for females. Specific risk factors for depression were parental depression and anxious/depressed behavior in both genders and peer problems for males. Specific risk factors for drug abuse/dependence were larger family size, lower socioeconomic status, hyperactivity, attention problems, and aggression. Parental substance abuse and having younger parents were specific risk factors for drug disorders in males.

Familial and behavioral-emotional risk factors for depression and drug disorders were primarily specific, suggesting separate pathways. The unique perspectives of multiple informants facilitate early identification.